

June 11, 2001

Ms. Debra Ambrose
Polar Minerals, Inc.
2700 Bluff Road
Mount Vernon, Indiana 47620

Re: 129-14294
First Minor Permit Revision to
MSOP 129-9292-00023

Dear Ms. Ambrose:

Polar Minerals was issued a Minor Source Operating Permit on May 14, 2001 for a talc, barite and calcium carbonate processing source. A letter requesting a revision to this permit was received on April 18, 2001. Pursuant to the provisions of 326 IAC 2-6.1-6, a Minor Permit Revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of adding the following equipment to the source:

One (1) Bepex/Air Mill Room, capacity: 20 tons of nonmetallic minerals per hour, consisting of:

- (a) Three (3) silo bins, known as AO, AS and AT, exhausted to Stacks AO, AS and AT, equipped with baghouses AO, AS and AT.
- (b) Two (2) air mills, known as AP and AQ, exhausted to Stacks AP and AQ, equipped with baghouses AP and AQ.
- (c) One (1) #2 Bepex, known as AR, exhausted to Stack AR, equipped with baghouse AR.

The following construction conditions are applicable to the proposed project:

- (a) The data and information supplied with the application shall be considered part of this permit revision approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
- (b) This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
- (c) Pursuant to IC 13-15-5-3, this approval to construct becomes effective upon its issuance.
- (d) Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

- (e) All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-6.1-6, the Minor Source Operating Permit shall be revised by incorporating the Minor Permit Revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this permit revision which includes this letter, the attached operating conditions applicable to these emission units, and revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Paula M. Cognitore, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

PMC:MES

cc: File - Posey County
U.S. EPA, Region V
Posey County Health Department
Southwest Regional Office
Air Compliance Section Inspector - Scott Anslinger
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

**CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR MANAGEMENT**

**Polar Minerals, Inc.
1703 Bluff Road
Mount Vernon, Indiana 47620**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 129-9292-00023	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: May 14, 2001
First Minor Permit Revision: 129-14294-00023	Pages Affected:3,5 Pages Added: 22a,22b,22c
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: June 11, 2001

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.7 Visible Emissions Notations
- D.1.8 Parametric Monitoring
- D.1.9 Baghouse Inspections
- D.1.10 Broken Bag or Failure Detection

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.11 Record Keeping Requirements

D.2 EMISSIONS UNIT OPERATION CONDITIONS: 19

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

- D.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]
- D.2.2 Nonmetallic Mineral Processing Plants NSPS [326 IAC 12-1] [40 CFR 60, Subpart OOO]
- D.2.3 Particulate Matter (PM)
- D.2.4 Preventive Maintenance Plan [326 IAC 1-6-3]

Compliance Determination Requirements [326 IAC 2-1.1-11]

- D.2.5 Particulate Matter (PM)
- D.2.6 Testing Requirements [326 IAC 3-6] [NSPS Subpart OOO]

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.2.7 Visible Emissions Notations
- D.2.8 Parametric Monitoring
- D.2.9 Baghouse Inspections
- D.2.10 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.2.11 Record Keeping Requirements

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- (d) Two (2) silos, known as R and S, installed in 1994, exhausted to stacks R (#190) and S (#191), connected pneumatically to baghouses R (#190) and S (#191), capacity: 6,107 cubic feet per hour, each.
- (e) Five (5) silos, known as T through X, installed in 1994, exhausted to stacks T (#192) through X (#196), connected pneumatically to baghouses T (#192) through X (#196), capacity: 11,083 cubic feet per hour, each.
- (f) One (1) Ball Mill micronizer, capacity: 15,000 pounds per hour and one (1) Bepex Mill micronizer, capacity: 2,000 pounds per hour, two (2) silos, capacity: 6,688 cubic feet, each and one (1) steric acid treatment surface coater, installed in 1994, connected pneumatically to baghouses Z (#198) through AC (#201)
- (g) One (1) pellet mill, known as Pellet Mill, installed in 1996, exhausted to stacks AE and AF pneumatically connected to baghouses AE and AF, capacity: 16,000 pounds of talc per hour.
- (h) One (1) Bepex Mill micronizer, known as #3, exhausted to Stack AN, connected to baghouse AN for particulate matter control, installed in 1997, capacity: 1.0 ton per hour.
- (i) Five (5) material storage silos, known as Silo A through Silo D and Silo 14, exhausted to stacks AG through AK respectively, connected to baghouses AG through AK respectively, installed in 1997, capacity: 12,038 cubic feet, each. These silos are also connected to a common baghouse, known as AM for unloading purposes.
- (j) One (1) Bepex/Air Mill Room, capacity: 20 tons of nonmetallic minerals per hour, consisting of:
 - (1) Three (3) silo bins, known as AO, AS and AT, exhausted to Stacks AO, AS and AT, equipped with baghouses AO, AS and AT.
 - (2) Two (2) air mills, known as AP and AQ, exhausted to Stacks AP and AQ, equipped with baghouses AP and AQ.
 - (3) One (1) #2 Bepex, known as AR, exhausted to Stack AR, equipped with baghouse AR.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (j) One (1) Bepex/Air Mill Room, capacity: 20 tons of nonmetallic minerals per hour, consisting of:
- (1) Three (3) silo bins, known as AO, AS and AT, exhausted to Stacks AO, AS and AT, equipped with baghouses AO, AS and AT.
 - (2) Two (2) air mills, known as AP and AQ, exhausted to Stacks AP and AQ, equipped with baghouses AP and AQ.
 - (3) One (1) #2 Bepex, known as AR, exhausted to Stack AR, equipped with baghouse AR.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60.670 - 60.676, Subpart OOO)

D.3.2 Nonmetallic Mineral Processing Plants NSPS [326 IAC 12-1] [40 CFR 60, Subpart OOO]

- (a) Particulate matter emissions from the grinding plant shall not exceed 0.05 grams per dry standard cubic meter, and
- (b) visible emissions from the grinding plant shall not exceed seven percent (7%) opacity.

D.3.3 Particulate Matter (PM) [326 IAC 6-3-2]

The particulate matter (PM) from the Bepex/Air Mill Room shall be limited to 30.5 pounds per hour, when operating at a process weight rate of 20.0 tons per hour, calculated by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where} \quad E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour.}$$

D.3.4 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for these emission units and their control devices.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.3.5 Particulate Matter (PM)

The baghouses AO through AT for PM control shall be in operation at all times when the Bepex/Air Mill

Polar Minerals, Inc.
Mount Vernon, Indiana
Permit Reviewer: MES

First Minor Permit Revision
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Revision Reviewer: MES

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Room is in operation.

D.3.6 Testing Requirements [326 IAC 3-6] [NSPS Subpart OOO]

Within 180 days from start-up, the Permittee shall perform particulate matter (grain loading) and opacity testing for the Bepex/Air Mill Room operations. Tests shall be performed for the silos, one of the three stacks AO, AS or AT, air mills and #2 Bepex, Stack AR. These test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.7 Visible Emissions Notations

- (a) Visible emission notations of the silos, air mills and #2 Bepex stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the Bepex/Air Mill Room, at least once per shift when the Bepex/Air Mill Room is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 3.0 and 5.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.9 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the Bepex/Air Mill Room when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when

venting to the indoors. All defective bags shall be replaced.

D.3.10 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.11 Record Keeping Requirements

- (a) To document compliance with Condition D.3.7, the Permittee shall maintain records of visible emission notations of the Bepex/Air Mill Room stack exhaust once per shift.
- (b) To document compliance with Condition D.3.8, the Permittee shall maintain the following:
 - (1) Once per shift records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle operation.
 - (2) Documentation of the dates vents are redirected.
- (c) To document compliance with Condition D.3.9, the Permittee shall maintain records of the results of the inspections required under Condition D.3.9 and the dates the vents are redirected.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Mail to: Permit Administration & Development Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Polar Minerals, Inc
2700 Bluff Road
Mount Vernon, IN 47620

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal knowledge of the
(Company Name)
representations contained in this affidavit and am authorized to make these representations on behalf of
_____.
(Company Name)
4. I hereby certify that Polar Minerals, 1703 Bluff Road, Mount Vernon, Indiana 47620, completed construction of the Bepex/Air Mill Room on _____ in conformity with the requirements and intent of the Construction Permit application received by the Office of Air Quality on April 18, 2001 and as permitted pursuant to MSOP No. 129-14294, Plant ID No. 129-14294 issued on _____.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana
on this _____ day of _____, 20 _____.

My Commission expires: _____.

Signature

Name (typed or printed)

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Permit Revision to a Minor Source

Source Background and Description

Source Name: Polar Minerals, Inc.
Source Location: 1703 Bluff Road, Mt Vernon, Indiana 47620
County: Posey
SIC Code: 3295
Operation Permit No.: MSOP 129-9292-00023
Operation Permit Issuance Date: May 14, 2001
Minor Permit Revision No.: MPR 129-14294-00023
Permit Reviewer: Paula M. Cognitore

The Office of Air Quality (OAQ) has reviewed a revision application from Polar Minerals, Inc. relating to the construction and operation of the following emission units and pollution control devices:

One (1) pneumatically fed Bepex/Air Mill Room, capacity: 20 tons of nonmetallic minerals per hour, consisting of:

- (a) Three (3) silo bins, known as AO, AS and AT, exhausted to Stacks AO, AS and AT, equipped with baghouses AO, AS and AT.
- (b) Two (2) air mills, known as AP and AQ, exhausted to Stacks AP and AQ, equipped with baghouses AP and AQ.
- (c) One (1) #2 Bepex, known as AR, exhausted to Stack AR, equipped with baghouse AR.

History

On April 18, 2001, Polar Minerals, Inc. submitted an application to the OAQ requesting to add an additional Bepex/Air Mill Room to their existing plant. Polar Minerals was issued a Minor Source Operating Permit (MSOP) on

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
AO	Silo	70.0	0.5	1000	70
AP	Air Mill	20.0	0.833	2650	200

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
AQ	Air Mill	20.0	0.833	2650	200
AR	#2 Bepex	20.0	1.0	4000	180
AS	Silo	70.0	0.5	1000	70
AT	Silo	70.0	0.5	1000	70

Recommendation

The staff recommends to the Commissioner that the MSOP Minor Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on April 18, 2001.

Emission Calculations

See pages 1 of 1 of Appendix A of this document for detailed emissions calculations.

The baghouses are pneumatically fed; therefore, PM and PM₁₀ after control emissions were used to determine permit level.

Potential To Emit of Revision

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

Pollutant	Potential To Emit (tons/year)
PM	9.23
PM ₁₀	9.23
SO ₂	0.00
VOC	0.00
CO	0.00
NO _x	0.00

Justification for Revision

The MSOP is being revised through a MSOP Minor Permit Revision. This revision is being performed pursuant to 326 IAC 2-6.1-6(g).

County Attainment Status

The source is located in Posey County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Posey County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Posey County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	114
PM ₁₀	52.6
SO ₂	0.011
VOC	0.096

CO	1.47
NO _x	1.75

- (a) The potential PM emissions are considerably higher than the potential PM₁₀ emissions due to the fact that the fugitive PM emissions from unpaved roads are 79.0 tons per year and the potential PM₁₀ emissions from unpaved roads are 16.8 tons per year.
- (b) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (c) These emissions are based upon the TSD for MSOP 129-9292-00023

Potential to Emit of Revision After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this MSOP revision.

	Potential to Emit (tons/year)						
Process/facility	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Bepex/Air Mill Room	9.23	9.23	0.00	0.00	0.00	0.00	0.00
PSD Threshold Level	250	250	250	250	250	250	-

This revision to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

- (a) The Bepex/Air Mill Room that processes nonmetallic minerals is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.670 - 60.676, Subpart OOO) because the initial crusher has a capacity greater than 25.0 tons per hour. Particulate matter emissions from the grinding plant shall not exceed 0.05 grams per dry standard cubic meter and visible emissions shall not exceed seven percent (7%) opacity. The 0.02 grains per dry standard cubic foot of outlet air stated emission rate for all six (6) baghouses is equivalent to 0.0459 grams per dry standard cubic meter of outlet air as follows:

$$0.02 \text{ gr/dscf} \times 1 \text{ lb} / 7,000 \text{ gr} \times 453.59 \text{ gm} / \text{lb} \times (1 / 0.3048 \text{ m} / 1 \text{ ft})^3 = 0.0459 \text{ gm/dscm}$$

Therefore these emission units comply with the 0.05 grams per dry standard cubic meter of outlet air emission limit of this Subpart.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC

14 and 40 CFR Part 63) applicable to this proposed revision.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the Bepex/Air Mill Room shall be limited to 30.5 pounds per hour, when operating at a process weight rate of 20.0 tons per hour, calculated by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour} \end{array}$$

Since the after control PTE from the Bepex/Air Mill Room is 2.11 pounds per hour, the operation complies with the above 326 IAC 6-3-2 limits.

Baghouses AO through AT shall be in operation at all times when the Bepex/Air Mill Room is in operation, in order to comply with this limit.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this review are as follows:

The Bepex/Air Mill Room has applicable compliance monitoring conditions as specified below:

- (a) Visible emissions notations of the silos, air mills and #2 Bepex stack exhaust shall be performed during normal daylight operations once per shift. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive

Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

- (b) The Permittee shall record the total static pressure drop across each baghouse, AO through AT, controlling the Bepex/Air Mill Room, at least once per shift when the Bepex/Air Mill Room is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across each baghouse shall be maintained within the range of 3.0 to 5.0 inches of water or a range established during the latest stack test. The Preventive Maintenance Plan for these units shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading.

These monitoring conditions are necessary because the baghouse must operate properly to ensure compliance with NSPS Subpart OOO and 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (MSOP).

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in bold):

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary talc, barite and calcium carbonate processing source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) grinding plant, installed in 1991, exhausted to stacks A through K and M controlled by twelve (12) baghouses, known as A through K and M, capacity: 14.0 tons of talc, barite or calcium carbonate per hour, consisting of the following:
- (1) One (1) crusher system (capacity 50.0 tons per hour),
 - (2) Two (2) silos,
 - (3) One (1) roller mill system,
 - (4) One (1) classifier,
 - (5) Six (6) bins,
 - (6) One (1) mill system; and
 - (7) One (1) gas-fired heater, rated at 4.0 million British thermal units per hour.
- (b) One (1) hammer mill micronizer, known as Bepex Mill #1, installed in 1994, exhausted to stacks N (#186) through Y (#197) connected pneumatically to baghouses N (#186) through Y (#197), capacity: 2,000 pounds per hour.
- (c) Four (4) silos, known as N through Q, installed in 1994, exhausted to stacks N (#186) through Q (#189) connected pneumatically to baghouses N (#186) through Q (#189), capacity: 8,313 cubic feet per hour, each.
- (d) Two (2) silos, known as R and S, installed in 1994, exhausted to stacks R (#190) and S

(#191), connected pneumatically to baghouses R (#190) and S (#191), capacity: 6,107 cubic feet per hour, each.

- (e) Five (5) silos, known as T through X, installed in 1994, exhausted to stacks T (#192) through X (#196), connected pneumatically to baghouses T (#192) through X (#196), capacity: 11,083 cubic feet per hour, each.
- (f) One (1) Ball Mill micronizer, capacity: 15,000 pounds per hour and one (1) Bepex Mill micronizer, capacity: 2,000 pounds per hour, two (2) silos, capacity: 6,688 cubic feet, each and one (1) steric acid treatment surface coater, installed in 1994, connected pneumatically to baghouses Z (#198) through AC (#201)
- (g) One (1) pellet mill, known as Pellet Mill , installed in 1996, exhausted to stacks AE and AF pneumatically connected to baghouses AE and AF, capacity: 16,000 pounds of talc per hour.
- (h) One (1) Bepex Mill micronizer, known as #3, exhausted to Stack AN, connected to baghouse AN for particulate matter control, installed in 1997, capacity: 1.0 ton per hour.
- (i) Five (5) material storage silos, known as Silo A through Silo D and Silo 14, exhausted to stacks AG through AK respectively, connected to baghouses AG through AK respectively, installed in 1997, capacity: 12,038 cubic feet, each. These silos are also connected to a common baghouse, known as AM for unloading purposes.
- (j) **One (1) pneumatically fed Bepex/Air Mill Room, capacity: 20 tons of nonmetallic minerals per hour, consisting of:**
 - (1) **Three (3) silo bins, known as AO, AS and AT, exhausted to Stacks AO, AS and AT, equipped with baghouses AO, AS and AT.**
 - (2) **Two (2) air mills, known as AP and AQ, exhausted to Stacks AP and AQ, equipped with baghouses AP and AQ.**
 - (3) **One (1) #2 Bepex, known as AR, exhausted to Stack AR, equipped with baghouse AR.**

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (j) One (1) Bepex/Air Mill Room, capacity: 20 tons of nonmetallic minerals per hour, consisting of:
- (1) Three (3) silo bins, known as AO, AS and AT, exhausted to Stacks AO, AS and AT, equipped with baghouses AO, AS and AT.
 - (2) Two (2) air mills, known as AP and AQ, exhausted to Stacks AP and AQ, equipped with baghouses AP and AQ.
 - (3) One (1) #2 Bepex, known as AR, exhausted to Stack AR, equipped with baghouse AR.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60.670 - 60.676, Subpart OOO)

D.3.2 Nonmetallic Mineral Processing Plants NSPS [326 IAC 12-1] [40 CFR 60, Subpart OOO]

- (a) Particulate matter emissions from the grinding plant shall not exceed 0.05 grams per dry standard cubic meter, and
- (b) visible emissions from the grinding plant shall not exceed seven percent (7%) opacity.

D.3.3 Particulate Matter (PM) [326 IAC 6-3-2]

The particulate matter (PM) from the Bepex/Air Mill Room shall be limited to 30.5 pounds per hour, when operating at a process weight rate of 20.0 tons per hour, calculated by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where} \quad \begin{array}{l} E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour.} \end{array}$$

D.3.4 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for these emission units and their control devices.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.3.5 Particulate Matter (PM)

The baghouses AO through AT for PM control shall be in operation at all times when the Bepex/Air Mill Room is in operation.

D.3.6 Testing Requirements [326 IAC 3-6] [NSPS Subpart OOO]

Within 180 days from start-up, the Permittee shall perform particulate matter (grain loading) and opacity testing for the Bepex/Air Mill Room operations. Tests shall be performed for the silos, one of the three stacks AO, AS or AT, air mills and #2 Bepex, Stack AR. These test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.7 Visible Emissions Notations

- (a) Visible emission notations of the silos, air mills and #2 Bepex stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.8 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the Bepex/Air Mill Room, at least once per shift when the Bepex/Air Mill Room is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 3.0 and 5.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.9 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the Bepex/Air Mill Room when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter.

Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.10 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.11 Record Keeping Requirements

- (a) To document compliance with Condition D.3.7, the Permittee shall maintain records of visible emission notations of the Bepex/Air Mill Room stack exhaust once per shift.
- (b) To document compliance with Condition D.3.8, the Permittee shall maintain the following:
 - (1) Once per shift records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle operation.
 - (2) Documentation of the dates vents are redirected.
- (c) To document compliance with Condition D.3.9, the Permittee shall maintain records of the results of the inspections required under Condition D.3.9 and the dates the vents are redirected.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Conclusion

The construction of this proposed revision shall be subject to the conditions of the attached proposed MSOP Minor Permit Revision No. 129-14294-00023.

**Appendix A: Emission Calculations
Baghouse Operations**

Page 1 of 1 TSD App A

Company Name: Polar Minerals, Inc.
Address City IN Zip: 1703 Bluff Road, Mt Vernon, Indiana 47620
MPR: 129-14294
Plt ID: 129-00023
Reviewer: Paula M Cognitore
Date: April 18, 2001

Baghouse ID	Control Efficiency	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Total Filter Area (sq. ft.)	Air to Cloth Ratio (acfm/sq. ft.)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
AO	99.8%	0.02	270	3.70	0.171	0.750
AP	99.8%	0.02	875	3.03	0.455	1.991
AQ	99.8%	0.02	875	3.03	0.455	1.991
AR	99.8%	0.02	1080	3.70	0.69	3.00
AS	99.8%	0.02	270	3.70	0.171	0.750
AT	99.8%	0.02	270	3.70	0.171	0.750
					2.11	9.23

Methodology

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

